

coloured. They inhabited undulating plateaus at an elevation of from 6000 to 10,000 feet above the sea.

The following papers were read :—

1. On the Mammals of Nyasaland : fourth Notice.

By OLDFIELD THOMAS, F.Z.S.

[Received October 28, 1896.]

(Plates XXXVIII. & XXXIX.)

The present paper contains an account of all the mammals which have been received by the British Museum from Nyasaland since the beginning of 1894, and forms a continuation of my three previous papers on the subject¹. As before, it is to the generosity and scientific spirit of Sir Harry Johnston that we owe most of the specimens referred to, but in addition some other members of the British Administration have been good enough to contribute specimens on their own account, and thus to further the cause of scientific research.

Among these contributors may be specially mentioned the names of Mr. Alfred Sharpe, Dr. Percy Rendall, and Mr. H. C. McDonald, each of whom has been lucky enough to send home specimens sufficiently distinct to be described as new.

In the following pages, where the name of the collector is put in brackets the specimens have been obtained as part of his official duties in the administration, and are to be considered as presented by Sir Harry Johnston; while direct donations to the Museum are shown by the words "Presented by" before the name of the collector. As usual, the majority of Sir Harry Johnston's specimens have been obtained by that indefatigable naturalist, Mr. Alexander Whyte.

In order to make the list of Nyasa mammals as complete as possible, I have here inserted the name of every species obtained during the whole of Sir H. Johnston's explorations of Nyasaland, with references to the places in the previous three papers where the species are noticed or described, and, in addition, those mentioned by Mr. Selater in his various papers. As a result the present paper contains a complete list of all the mammals as yet received by the Museum from Nyasaland, numbering 82 in all.

1. *COLOBUS PALLIATUS*, Pet.

(*C. angolensis*, ScI. P. Z. S. 1892, p. 97.)

The receipt of more perfect Angolan specimens than were formerly available shows that Peters's species is, after all, distinct, by the presence of a white frontal band, from that described by Selater.

¹ P. Z. S. 1892, p. 546; 1893, p. 500; and 1894, p. 136.



J. Smit del. et lith.

PAPIO PRUINOSUS.

Mintern Bros. imp.



J. Smit del et lith

RAPHICEROS SHARPEI.

Mitern Bros imp.

2. *CERCOPITHECUS LEUCAMPYX*, Fisch.

(*C. Pluto*, ScI. P. Z. S. 1892, p. 97; *C. leucampyx*, ScI. P. Z. S. 1893, p. 253.)

3. *CERCOPITHECUS MOLONEYI*, ScI.

(ScI. P. Z. S. 1893, p. 252.)

4. *CERCOPITHECUS ALBIGULARIS*, Sykes.

(P. Z. S. 1894¹, p. 137.)

Three specimens from the Chiradzulu Mts., July 1895
(*A. Whyte*).

5. *PAPIO PRUINOSUS*, sp. n. (Plate XXXVIII.)

a. Ad. skin, ♂. Fort Johnston, July 24, 1895 (*Dr. P. Rendall*).
"Irides yellowish brown. Native name 'Nyani.'"—*P. R.*

Size and length of fur very much as in *P. thoth*, Og., to which the species seems to be most nearly allied, but the hairs are softer to the touch, entirely different in colour, and unannulated throughout. General colour hoary grey, not very unlike that of such specimens of *Didelphys marsupialis* as have white-tipped bristle-hairs. Throughout, on the upper surface, there are two sorts of hairs, the shorter about 3-4 inches in length, and the longer about 7 inches; both have black tips about $\frac{3}{4}$ to 1 inch long, while their remainder is dirty white. In a general view the black tips of the shorter hairs show clearly against their white bases, but those of the longer hairs do not show at all, so that these latter look wholly white. The general hoary colour obtained by this mixture of black and white extends all over the upper surface, including the head, along the outer sides of the limbs to the metapodials, and to the end of the tail, which is, however, rather blacker proximally and whiter terminally than the rest of the body. Tip of tail untufted. Below, on cheeks, chin, and belly, and on the inner sides of the limbs the black tips disappear, the fur is then entirely dirty white. The fingers and toes are also nearly unmixed white.

Skull very closely resembling that of *P. thoth* in size and general characters, but the muzzle is very decidedly shorter. Thus, while the distance from the orbit to the occiput is almost identical in the two, that from the orbit to the gnathion is very materially shorter in the new form. The muzzle is also more tapering and less parallel-sided anteriorly. The nasals are less flattened, and are more clearly visible in a lateral view of the skull. Below, the palate is shorter, the tooth-rows are more bowed in anteriorly, and the pterygoid fossæ are broader.

In the lower jaw the pit below $\overline{p^2 \& m^1}$ is very much shallower, indeed scarcely noticeable, and the chin is much more developed, probably because of the shortening of the palate and consequent vertical position of the lower incisors and canines.

¹ These references refer to the three previous papers in the P. Z. S., in 1892, 1893, and 1894.

Dimensions. ♂, in skin (merely approximate). Head and body 750 mm.; tail 550; hind foot 190.¹

Skull. Greatest length 182, basal length 131; zygomatic breadth 103·5; gnathion to lower edge of orbit 92; occiput to lower edge of orbit 109; nasals, length mesially 62, greatest breadth 15·2; height of orbit 26; breadth across orbits, outside, at fronto-malar sutures 71; nasion to occiput 110; nasion to basion 81; palate, length 81, breadth between outer sides of \underline{m}^2 51·3, between inner sides of \underline{m}^2 30; combined lengths of upper true molars 34·5.

Type. B.M. No. 95.12.7.8.

This remarkable Baboon is distinguished at the first glance from every other species by its hoary colour, white belly, and unannulated fur. It is much to be hoped that further examples of it will be sent home, and also skulls of different ages and both sexes, as Baboons are animals of which our knowledge is miserably imperfect, mainly owing to the fact that nearly all the specimens in the different museums have lived in captivity, and are therefore quite unsuitable for scientific examination.

For this reason, Baboons from all localities, even of the commonest species, are special desiderata to our National Museum, and no wild-killed examples can possibly be valueless, if accompanied by their skulls and a record of their exact locality. Skulls alone, old or young, male or female, to any number, will also be extremely acceptable.

6. *OTOGALE KIRKI*, Gray.

(P. Z. S. 1893, p. 501; 1894, p. 137.)

Three skins. Chiradzulu Mts., July 1895.

"From the Terai of the mountains."—*A. Whyte*.

7. *GALAGO MOHOLI*, A. Sm.

(P. Z. S. 1894, p. 137.)

8. *EPOMOPHORUS CRYPTURUS*, Pet.

(P. Z. S. 1894, p. 157.)

a, b. Zomba (*A. Whyte*).

9. *XANTHARPYIA STRAMINEA*, Geoffr.

Zomba, Jan. 1896 (*A. Whyte*).

10. *RHINOLOPHUS HILDEBRANDTI*, Pet.

(P. Z. S. 1894, p. 138.)

Three specimens. Fort Johnston, April 16 and Dec. 1895 (*Dr. P. Rendall*).

¹ Dr. Rendall gives—tail 570 mm., hind-foot 210, as the measurements in the flesh.

11. RHINOLOPHUS LANDERI, Mart.

(P. Z. S. 1894, p. 138.)

Fort Johnston, April and Dec. 1895 (*Dr. P. Rendall*).

12. RHINOLOPHUS CAPENSIS, Licht.

(P. Z. S. 1894, p. 138.)

13. HIPPOSIDERUS CAFFER, Sund.

(P. Z. S. 1894, p. 138.)

a. In spirit. Fort Johnston, Dec. 1895 (*Dr. P. Rendall*).

b. Skin. Fort Johnston, Dec. 1895. Presented by Dr. Rendall.

14. NYCTERIS HISPIDA, Schr.

a. In spirit. Fort Johnston, April 25 and 28, 1895 (*Dr. P. Rendall*).

b. Skin. Fort Johnston, Sept. 5, 1895. Presented by Dr. Rendall.

15. VESPERUGO (EPTESICUS¹) MEGALURUS, Temm.

(P. Z. S. 1892, p. 548; 1894, p. 138.)

16. VESPERUGO (EPTESICUS) RENDALLI, Thos.

3 skins. Upper Shiré R., July 25, 1895. Presented by Dr. Percy Rendall.

"Roosting during the day on the leaves of a doum palm; caught when the tree was felled. Native name 'Chiputi-puti.'" —*P. R.*

This peculiar white-winged Bat was first discovered by Dr. Percy Rendall on the Gambia, and was described by me in 1889. It is a curious coincidence that its second known capture, in so far distant a country as Nyasaland, is due to the very same naturalist who originally discovered it. There appears to be no differences of any importance between the Gambian and Nyasan examples.

17. VESPERUGO NANUS, Peters.

(P. Z. S. 1892, p. 548; 1894, p. 138.)

a, b. Zomba (*A. Whyte*).

18. SCOTOPHILUS NIGRITA, Schr.

♀. Fort Johnston, Dec. 1895 (*Dr. P. Rendall*).

¹ Dr. Harrison Allen (P. Ae. Philad. 1891, p. 466) has shown that the name *Vesperus* is not tenable in Mammalia owing to preoccupation, and has given the group another name—*Adelonycteris*. But from his own synonymies (Bats N. Amer. ed. 1, p. 31, and ed. 2, pp. 112 & 184, 1893) it is quite clear that *Eptesicus*, Raf., dating from 1820, has a valid claim to adoption. Rafinesque's description is fully pertinent if the evident transposition of the words "outside" and "inside" in the description of the upper incisors be allowed for. The typical species, *E. melanops*, is said to have been already "noticed under the head of *Vespertilio phaiops*," and this latter name Dr. Allen places as a synonym of "*Adelonycteris fuscus*." (See also J. A. Allen, Bull. Mus. Harvard Coll. no. 8, p. 208, 1869.)

19. RHYNCHOCYON CIRNEI, Pet.

(P. Z. S. 1894, p. 146.)

Chiradzulu Mts., July 1895 (*A. Whyte*).

20. PETRODROMUS TETRADACTYLUS, Pet.

(P. Z. S. 1892, p. 548; 1893, p. 501.)

21 & 22. CROCIDURA (*Croc.*), spp. incc.

(P. Z. S. 1893, p. 501.)

Ad. ♀. Fort Johnston, Dec. 1895 (*Dr. P. Rendall*).

Head and body 94 mm.; tail 43; hind foot 13.6; ear 10.

23. FELIS PARDUS, L.

(P. Z. S. 1892, p. 547.)

24. FELIS SERVAL, Schr.

(P. Z. S. 1894, p. 139.)

25. FELIS CAFFRA, Desm.

Zomba (*A. Sharpe*).

26. HYÆNA CROCUTA, Erxl.

(P. Z. S. 1892, p. 548; 1894, p. 139.)

27. VIVERRA CIVETTA, L.

(Scl. P. Z. S. 1892, p. 97.)

Zomba (*J. McClouvie*).

28. GENETTA TIGRINA, Schr.

(Scl. P. Z. S. 1892, p. 97.)

29. NANDINIA GERRARDI, Thos.

Ann. Mag. N. H. (6) xii. p. 205 (1893).

The type specimen of this species was obtained on the Lower Shiré by Dr. Kirk in 1861. It does not seem to have been met with by recent collectors.

30. HERPESTES GALERA, Erxl.

a. Ad. skin. Fort Songwe, North Nyasa, Dec. 19, 1895 (*J. B. Yule*).

31. HERPESTES GRACILIS, Rüpp.

(P. Z. S. 1893, p. 501.)

Young. Zomba, Dec. 1895 (*A. Whyte*).

32. HERPESTES ALBICAUDA, G. Cuv.

(Scl. P. Z. S. 1892, p. 97.)

33. RHYNCHOGALE MELLERI, Gray.

(P. Z. S. 1894, p. 139.)

Young. Zomba, Feb. 1894 (*A. Whyte*).

34. CROSSARCHUS FASCIATUS, Desm.

(P. Z. S. 1893, p. 501; 1894, p. 140.)

35. CANIS LATERALIS, ScL.

(P. Z. S. 1894, p. 146.)

Zomba, Feb. 1894 (*A. Whyte*).

Two living specimens of this Jackal were sent to the Zoological Society of London by Sir Harry Johnston from Zomba in October 1896.

36. PÆCILOGALE ALBINUCHA, Gray.

Zomba plain, Oct. 1893 (*A. Whyte*).

37. LUTRA MACULICOLLIS, Licht.

(P. Z. S. 1894, p. 140.)

Fort Johnston (*A. Sharpe*).

38. ANOMALURUS CINEREUS, Thos.

Ann. Mag. N. H. (6) xv. p. 188.

It is uncertain whether this can properly be termed a Nyasaland species, as the only locality that could be obtained for the type was "Upper Rovuma River, towards Lake Nyasa."

The attention of Nyasa naturalists is particularly drawn to the question of the occurrence of Flying Squirrels there, as if any are present specimens are sure to be of special interest.

39. SCIURUS MUTABILIS, Peters.

(P. Z. S. 1892, pp. 97 & 548; 1893, p. 502; 1894, p. 140.)

4 skins. Chiradzulu Mts., July 1895.

1 skin. Zomba.

40. SCIURUS PALLIATUS, Pet.

(P. Z. S. 1892, p. 549; 1894, p. 140.)

41. OTOMYS IRRORATUS, Bts.

(P. Z. S. 1892, p. 549; 1893, p. 502.)

Juv. Zomba, Jan. 1896 (*A. Whyte*).Juv. Fort Johnston, Dec. 1895 (*Dr. P. Rendall*).

42. GERBILLUS AFER, Gray.

(P. Z. S. 1892, p. 549; 1893, p. 502.)

43. CRICETOMYS GAMBIANUS, Waterh.

(P. Z. S. 1892, p. 550; 1894, p. 142.)

44. *GOLUNDA FALLAX*, Pet.
(P. Z. S. 1892, p. 552; 1893, p. 502.)
45. *ARVICANTHIS DORSALIS*, A. Sm.
(P. Z. S. 1892, p. 551; 1894, p. 142.)
46. *ARVICANTHIS PUMILIO*, Sparrm.
(P. Z. S. 1892, p. 551.)
47. *MUS RATTUS*, L., var.
(P. Z. S. 1892, p. 550; 1893, p. 502.)
48. *MUS DOLICHURUS*, Smuts.
(P. Z. S. 1892, p. 550; 1893, p. 502; 1894, p. 141.)
Ad. ♀ & 2 young. Fort Johnston, Dec. 1895 (*Dr. P. Rendall*).
49. *MUS NATALENSIS*, A. Sm.
(P. Z. S. 1892, p. 550; 1893, p. 502.)
50. *MUS MODESTUS*, Wagn. (?).
(P. Z. S. 1892, p. 550; 1893, p. 503 (*Mus musculus*); 1894,
p. 141.)
51. *MUS (LEGGADA) MINUTOIDES*, A. Sm.
(P. Z. S. 1892, p. 550; 1893, p. 503.)
Zomba, Jan. 1896 (*A. Whyte*).
52. *DASYMYS INCOMTUS*, Sund.
(P. Z. S. 1893, p. 502.)
53. *SACCOSTOMUS CAMPESTRIS*, Pet.
(P. Z. S. 1893, p. 503.)
54. *ACOMYS SPINOSISSIMUS*, Peters (?).
Juv. Fort Johnston, Dec. 1895 (*Dr. P. Rendall*).
Too young for exact determination.
This is the first recorded occurrence of the genus *Acomys* in
Nyasaland proper, but Peters's specimens came from Bino and
Tette on the Zambesi.
It is much to be hoped that further specimens of this Spiny
Mouse will be obtained, so that its proper name may be made out
with certainty.
55. *DENDROMYS MESOMELAS*, Bts.
(P. Z. S. 1892, p. 252; 1893, p. 503.)
56. *STEATOMYS PRATENSIS*, Pet.
(P. Z. S. 1893, p. 503.)

57. *LOPHUROMYS AQUILUS*, True.

a. Ad. ♀. Zomba, Jan. 1896 (*A. Whyte*).

b. Imm. Fort Johnston, Dec. 1895 (*Dr. P. Rendall*).

a. Head and body 120 mm.; hind foot 21.5; ear 16.

The determination of this *Lophuromys* is not quite certain, and better series both from East Africa and Nyasa will be required before its identity can be definitely settled. For the information of collectors on the spot it may be mentioned that *Lophuromys* may be readily distinguished from any other rat by its peculiar speckled chocolate colour and its curious harsh and flattened (but not spiny) fur.

58. *MYOSCALOPS ARGENTEO-CINEREUS*, Pet.

(*P. Z. S.* 1892, p. 552; 1893, p. 504.)

59. *AULACODUS SWINDERENIANUS*, Temm.

(*P. Z. S.* 1892, p. 553.)

Zomba Plateau, 4000 ft., Jan. 1894 (*A. Whyte*).

Young. Zomba, Jan. 1896 (*A. Whyte*).

[*HYSTRIX*, sp. inc.

No Porcupine has as yet been recorded from Nyasaland, but one is certain to occur there. Specimens are sure to be of interest, and, as with the baboons, any number of skulls would be most acceptable.]

60. *LEPUS WHYTEI*, Thos.

(*P. Z. S.* 1894, p. 142.)

a. ♀. Kasitu R., Henga, S.W. of Deep Bay, Nyasa, June 21, 1895. Presented by Mr. Richard Crawshay.

I am not as yet prepared to admit definitely the identification of the Nyasa Hare with *Lepus ochropus*, Wagn., as is done by Dr. Matschie, and prefer to use the name which specially belongs to it, until there is better evidence as to the type of *L. ochropus* having been collected far enough north to be the present form.

61. *PROCAVIA JOHNSTONI*, Thos.

(*P. Z. S.* 1892, p. 553 (*P. capensis*); 1894, p. 142.)

62. *PROCAVIA BRUCEI*, Gr.

(*P. Z. S.* 1894, p. 144.)

63. *RHINOCEROS BICORNIS*, L.

(*P. Z. S.* 1894, p. 145.)

64. *POTAMOCHÆRUS LARVATUS*, F. CIV.

(*P. Z. S.* 1893, p. 504.)

Zomba and Mpimbi, Dec. 1893 (*A. Whyte*).

65. PHACOCHERUS ÆTHIOPICUS, Pall.

(P. Z. S. 1894, p. 145.)

♂ skeleton. Zomba.

66. BUBALIS LICHTENSTEINI, Pet.

(P. Z. S. 1892, p. 553; 1893, p. 504; 1894, p. 145.)

67. CONNOCILETES TAURINUS, Burch.

a. Skin and skull. South end of Lake Chilwa. Presented by Mr. H. C. McDonald.

This specimen is the type of the subspecies distinguished by Mr. Sclater as *C. t. johnstoni*¹.

68. CEPHALOPHUS GRIMMI, Linn.

(P. Z. S. 1892, p. 554; 1893, p. 504.)

Zomba (*A. Sharpe & A. Whyte*).

69. OREOTRAGUS SALTATOR, Bodd.

(P. Z. S. 1892, p. 533; 1894, p. 145.)

70. OUREBIA HASTATA, Pet.

(P. Z. S. 1893, p. 504; 1894, p. 146 (*Nanotragus scoparius*)).Lake Shirwa (*A. Whyte*).

71. RAPHICEROS SHARPEI, sp. n. (Plate XXXIX.)

a. Ad. skin: ♂. Southern Angoniland. Presented by Mr. Alfred Sharpe.

A *Raphiceros* with the white markings of the Grysbok, but with the feet of the Steinbok.

Size apparently rather less than in the Steinbok (*R. campestris*). General colour rich glossy fulvous rufous, much brighter than in either of the allied species. Mixed with the fulvous hairs there are, as in *R. melanotis*, a large number of perfectly white ones. Muzzle brown above, darkest in the middle line, but without the common sharply-defined nose-patch. Sides of muzzle dirty whitish; cheeks and sides of neck fawn. Crown with a well-marked crescentic black marking, as in *R. campestris*. Ears large, very thinly haired externally, the hairs mostly white, black along the edges. Colouring of under surface and limbs as in *R. campestris*. Tail short, above rufous mixed with white, like the back; below white.

Horns of the single specimen (of the age of which I have no cranial evidence) conical, straight, little more than an inch long, very thick in proportion to their length, but already commencing to be ringed basally, within an inch from their tip. They are thus, whether young or old, quite unlike those of any other allied antelope, and would alone serve to distinguish the new species.

Dimensions (approximate) of the type, a flat skin:—Length of

¹ *Suprà*, p. 616, pl. xxviii. See also p. 506.

head and body 635 millim.; tail without hairs 25; ear-opening (in wet state) 87×60 . Horns, length anteriorly 31; basal circumference 39.

Type. B.M. No. 96.10.26.3.

This very beautiful little Antelope forms an interesting connecting link between the Grysbok and the Steinbok, which it has been sometimes thought might be placed in different genera, owing to their difference in hoof-structure. In the latter important respect *R. sharpei* agrees with the Steinbok, having no supplementary hoofs, but in the presence of the white hairs in its coat it resembles the Grysbok, while its horns are equally different from both its allies.

If the type is an adult specimen (and its digital epiphyses are already closed), the horns are shorter in proportion than in any other species of the group, but even if not, their great thickness and conical shape would readily distinguish them from those of any other known species.

Mr. Sharpe is to be congratulated on his discovery of this handsome little species, and will, we may hope, soon send home further specimens of it, accompanied by their skulls.

72. *KOBUS ELLIPSIPRYMNUS*, Og.

(P. Z. S. 1893, p. 504; 1894, p. 145.)

73. *KOBUS VARDONI*, Livingst.

(Sci. P. Z. S. 1892, p. 98.)

74. *KOBUS SENGANUS*, Scl. & Thos.

a. Imm. ♀. Senga Valley, Upper Loangwa R. Presented by Mr. R. Crawshay. *Type* of species.

This interesting animal, the representative in the Senga Valley of *K. vardoni*, from which it differs in its smaller size, is fully described in the 'Book of Antelopes' (ii. p. 145) and only a passing reference to it is here necessary.

75. *CERVICAPRA ARUNDINUM*, Bodd.

(P. Z. S. 1894, p. 146.)

Lake Mweru (*A. Sharpe*).

The Mweru Reedbuck has a well-marked black patch on the crown between the horns. Similar patches have been noticed by Gray in S. African specimens.

76. *ÆPYCEROS MELAMPUS JOHNSTONI*, Thos.

(P. Z. S. 1892, p. 553; 1894, p. 145.)

77. *HIPPOTRAGUS NIGER*, Hart.

(P. Z. S. 1893, p. 504.)

78. *OREAS CANNA*, H. Sm.

(P. Z. S. 1893, p. 504; 1894, p. 145.)

79. *STREPSICEROS KUDU*, Gray.

(P. Z. S. 1894, p. 145.)

80. *TRAGELAPIUS ANGASI*, Angas.

(Sci. P. Z. S. 1892, p. 98.)

Zomba, 1893 (*A. Whyte*).

Mantanas, near Chilomo, Oct. 1894. Presented by Lieut. G. Oliver, R.N.

81. *TRAGELAPIUS SCRIPTUS ROUALEYNI*, Gord. Cumm.

(P. Z. S. 1893, p. 505; 1894, p. 145.)

Two males. Top of Mount Zomba. Presented by Mr. Alfred Sharpe.

Zomba, Dec. 11, 1893 (*A. Whyte*).

82. *MANIS TEMMINCKI*, Smuts.

(P. Z. S. 1892, p. 554; 1894, p. 145.)

2. On Collections of Rodents made by Mr. J. ffolliott Darling in Mashunaland and Mr. F. C. Selous in Matabeleland, with short Field-Notes by the Collectors. By W. E. DE WINTON, F.Z.S.

[Received August 31, 1896.]

(Plate XL.)

I. MR. DARLING'S COLLECTION.

By the kindness of the authorities of the British Museum I have been allowed to work out the Rodents contained in the collection of small Mammals made by Mr. Darling during last year, while engaged in mining work in the Mazoe district, about 4000 ft. above sea-level, on the headwaters of the river of the same name which flows N.E. into the Zambesi.

Collections from Africa with reliable data are always looked forward to with much interest, but I think that this one, from a district which of late has been brought so prominently before us, has very special recommendations.

Every specimen has been most carefully prepared, with date of capture, sex, and measurements, taken in the flesh, recorded, and in almost every case the skull accompanies the skin; in the few cases when this is missing, it is fully accounted for by having been eaten by a hen or some evil beast; in one case the skull alone is sent, the skin preserved with arsenical soap and stuffed with cotton wool, having been eaten and vomited by a cat, was thought to be not worth postage, which, by the way, is 2s. 9d. per lb.

With a further consignment we may hope to receive duplicates